

EE/CprE/SE 492 WEEKLY REPORT 02

09/05/2025 – 09/18/2025

Group Number: sddec25-01

Project Title: Semantic Segmentation Optimization

Client/Advisor: JR Spidell/Namrata Vaswani

Team Members/Role:

- Joseph Metzen – Kria Board Manager
- Tyler Schaefer – ML Algorithm Analyst
- Conner Ohnesorge – ML Integration HWE
- Aidan Perry – Multithreaded Program Developer

Weekly Summary - Met with client and re-aligned on our current progress and steps going forward. Met with Faculty Advisor and with Professor Fila in order to discuss past semesters achievements and future goals.

Accomplishments

- **Joseph Metzen:** Started a slide deck about data management and where the data will be at all times.
- **Tyler Schaefer:** Shared the current version of the split model.
- **Conner Ohnesorge:**
Presented a multitude of issues that we had as a group with project management and how to solve them to improve the overarching project:
Current Issues:

- Hard-coded version-specific instructions
- No automated documentation testing
- Mixed documentation locations (root README, docs/, inline)
- No documentation standards
- Hosted Git Organization management/enforcement of NDA and ease-of-access

- **Aidan Perry:**

Refined script in order to evaluate a matrix in the same format as our CVmatt image. Demonstrate how the image is evaluated and broken up. Will be able to present how this process will be pipelined for our needs.

Pending Issues

- **Conner Ohnesorge:** I need to create an account and signup for gitlab so that I can join the new git host. Also, will need to distribute the converted split onnx model segments into
- **Aidan Perry:** Techniques used in evaluating the matrix that was developed within the function that the team created, may need to be altered to actually fit the purposes in how we will evaluate the image.
- **Tyler Schaefer:** The split model requires further numerical testing to ensure that it retains accuracy.

Individual Contributions

Team Members	Individual Contributions	Hours this week	Hours Cumulative
Joseph Metzen	- Created a slide deck	3	5

	about data management.		
Tyler Schaefer	<ul style="list-style-type: none"> - Working on and sharing split model + meetings 	3	4
Conner Ohnesorge	<ul style="list-style-type: none"> - Combined grievances with the project orchestration into a comprehensive - Presented them to JR with good reception 	4	5
Aidan Perry	<ul style="list-style-type: none"> - Worked on re-evaluation of the function to better fit our purposes 	3	6

Plans for the Upcoming Week

- **Joseph Metzen:** Keep working on the slide deck.
- **Tyler Schaefer:** Work on developing testing for the divided model
- **Conner Ohnesorge:** **Convert the split model into xmodel and into hardware optimized xmodel using vitis-ai**
- **Aidan Perry:** Evaluate how the model will be used within the developed pipeline, and propose the design to client.

